Introduction to Windows

Microsoft windows is a family of operating systems for personal computers. Windows dominates the personal computer world, running almost on 90% of all personal computers. The remaining 10% are mostly Macintosh computers and LINUX operating system based machines. Windows provides a graphical user interface (GUI), virtual memory management, multitasking, and support for many peripheral devices. This chapter will show you all the basics you need to get started. You'll get an overview of Windows features, and you'll learn how to use Help to get an answer to your questions and find out more about using windows operating systems.

8.1 Main Keywords Associated With Microsoft Windows

- **Disk Drives**

  Drives are devices used to store data. Most computers have atleast two drives: a hard drive C:\ (Which is the main means of storage) and a floppy drive (which stores smaller volumes of data (1.44 Mb) on 3.5" disks - floppy disks). The hard drive is typically designated the C:\ drive and the floppy drive is typically designated the A:\ drive. If you have an additional floppy drive, it is typically designated the B:\ drive. A hard disk can have multiple partitions as well. In that case the first partition will be labeled as C:\ and the rest will be labeled as D:\, E:\ and so on depending upon the number of partitions. You can also have network drives on your computer, depending on authorization and rights of each user. These drives will typically be labeled after the hard drives. e.g. H:\ or G:\

- **Folders (Directory)**

  Folders are used to organize the data stored on your drives. Think of your computer drives as filing cabinets. You can sort your data on drives with folders that store different files. The files that make up a program are stored together in their own set of folders. You can organize the files you create in folders for better accessibility. Folders can be copied and moved from one place to another on your hard disk.

- **File Extensions**

  File Extensions are the ending letters which are placed after a DOT in the file name e.g. *PhoneNumbers.txt*. In this file name, *PhoneNumbers* is the name of the file and *txt* is the file extension. This extension of a file associates it with an application that can be used to view and manipulate it. In this way Windows knows which program to open for a particular file type. For example, a text file has an extension of .txt, so a text file created in Notepad with the name *PhoneNumbers* would look like this *PhoneNumbers.txt*. You do not have to assign a file extension to a file that you create. The program you use will automatically do this for you. All you need to do is give it a filename. Some other common extensions are as follows:

    - .doc = Microsoft Word Document

- .xls = Microsoft Excel Document
- .ppt = Microsoft PowerPoint Presentation
- .mdb = Microsoft Access Database
- .bmp = Windows Bitmap Picture
- .wav = Sound File
- .html or .htm = hypertext document

- **Icon**

  An Icon is a graphic image. Icons help you execute commands quickly. Commands tell the computer what you want the computer to do. These may be shortcuts to applications which are installed on your computer. If you want to execute a command by using an icon, double-click on it. Below are some of the icons and their uses.

My Computer		*My Computer* icon provides access to the different parts on your computer. You can access the different disk drives (Hard Drive, Floppy Drive, and Network Drives) inside *My Computer.*
Recycle Bin		When you delete a file or folder, Windows sends it to the Recycle Bin. You can restore the file or folder that are located in the Recycle Bin or you can permanently delete them by right clicking on the Recycle Bin and select *Empty Recycle Bin.*
My Documents		The *My Documents* folder is nothing more than a regular folder that resides on your Windows Desktop. However, it offers an easy-to-reach location where you can store and retrieve important data, and the icon is always available in Explorer Windows and on the desktop.
Internet Explorer		The *Internet Explorer* icon launches the Internet Explorer browser. The Internet Explorer browser is what you will use to access the Internet and the World Wide Web.

8.2   Features of Windows

- **Graphical User Interface:**

  Windows provide user-friendly interface to work. Its improved graphical user interface makes learning and using Windows more natural and easier for all types of users. It is more stable, customizable and efficient.

- **Start Button**

  Introduction of START button in Windows made life much simpler while there is a need to access multiple programs. It is the gateway of accessing most of the functionality available in the computer loaded with Windows. Just Click on the Start button anytime to start any programs, open or find documents, change windows settings, get Help, manage Files, maintain system, and much more.

- **Taskbar**

  As the name suggests, the Task bar provides information and access to applications that are being currently run by Windows. Using this, one can keep track of programs that have been activated and can switch between them.

- **Windows Explorer**

  Windows Explorer acts as a directory browser and File Manager for Windows, and incorporates lots of additional features. It is an efficient, faster and user friendly way for locating and managing files on your computer.

  Using Explorer one can easily browse through all the drives and network resources available and manage them.

- **Mouse**

  Although you can use the keyboard for most actions, many of these actions are easier to perform with a mouse. The mouse controls a pointer on the screen. You move the pointer by sliding the mouse over a flat surface in the direction you want the pointer to move. If you run out of room to move the mouse, lift it up and then put it down in a more comfortable location. Mentioned below are the five basic mouse actions.

  - **Point to an item:** Move the mouse to place the pointer on the item.
  - **Click an item:** Point to the item on your screen, and then quickly press and release the left mouse button.
  - **Right-click an item:** Point to the item on your screen, and then quickly press and release the right mouse button. Clicking the right mouse button displays a shortcut menu from which you can choose from a list of commands that apply to that item.
  - **Double-click an item:** Point to the item, and then quickly press and release the left mouse button twice.
  - **Drag an item:** Point to an item, and then hold down the left mouse button as you move the pointer.

- **Shortcuts**

  As the name suggests, SHORTCUTS establish a link with original programs, these are the shortest way of accessing files and other resources in Windows. Instead of traversing the full path of the program to access it, one can create "shortcuts".

- **Multitasking**

  Multitasking allows the user to activate and accomplish more than one task at a time. For example, work on a document file in WORD programs, while copying file from other computer available on the network. With Windows computing environment, the user can do more than one task at a time.

- **Easy Internet Access**

  One of the most useful and entirely new features in Windows is easy access to Internet. It provides built-in Internet functionality to setup link and access Internet with fewer amounts of Hardware and Software requirement. It also provides connectivity software from Microsoft Network (MSN) which allows you to stay in touch with family and friends throughout the world.

  It also improves the efficiency of working on Internet with applications that support the latest Internet technologies, such as Internet Explorer, Java, and streaming audio and video support.

- **Great Gaming Platform**

  Windows support rich graphics, high quality audio and video. It has all the functionality incorporated in it to support these technologies. All this is possible because of Windows compatibility with latest and hottest technologies like Plug and Play, AutoPlay, and built-in support for MIDI and digital audio and video.

- ## Hardware Compatibility

Windows provides greater Hardware compatibility as compare to any other operating environment. It has flexibility of supporting hardware from different vendors. Its Plug and Play functionality allows you to insert the hardware card into the computer and when the computer is turned on Windows automatically recognizes and sets up the hardware.

- ## Search Utility

Search Utility of Windows allows you to do searches by partial name, last modified date, or full text. In addition, you can save, rename, or view files from within the result pane, just like you can from Windows Explorer.

- ## Help

Windows provides online help to accomplish a task. If the user is not sure how to perform a task, Windows Help will provide structured process for guiding on how to accomplish the task. Simply right-click on any object in the user interface (icons) and you'll get relevant descriptions about that object. Help can also be accessed from the start menu button.

8.3 Windows Desktop

When you start your computer, the desktop is the first thing you see after logging into the computer. For login you have to give *username* and *password*. A common desktop image shown in Fig.8.1, which shows the screen with icons for various programs. The desktop is the area where you work.
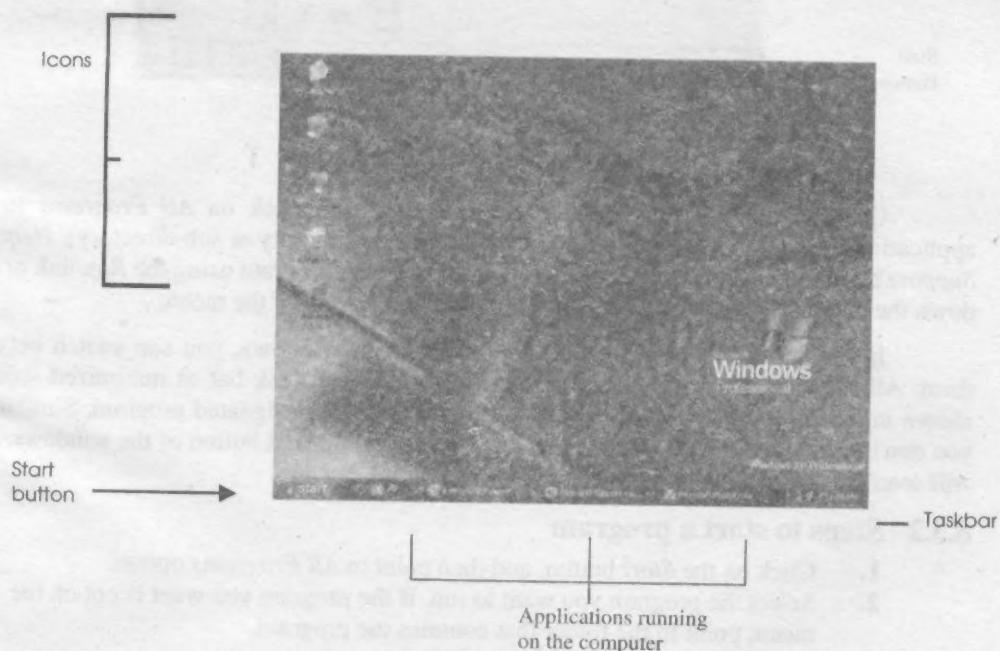

Figure 8.1: Windows Desktop

8.3.1   Start Button and Taskbar

Windows features the Start button and Taskbar at the bottom of the screen. This bar contains the Start button. Using this button, a program can be quickly started or file can be searched for. Quick help on how to use windows can also be obtained from this task bar.
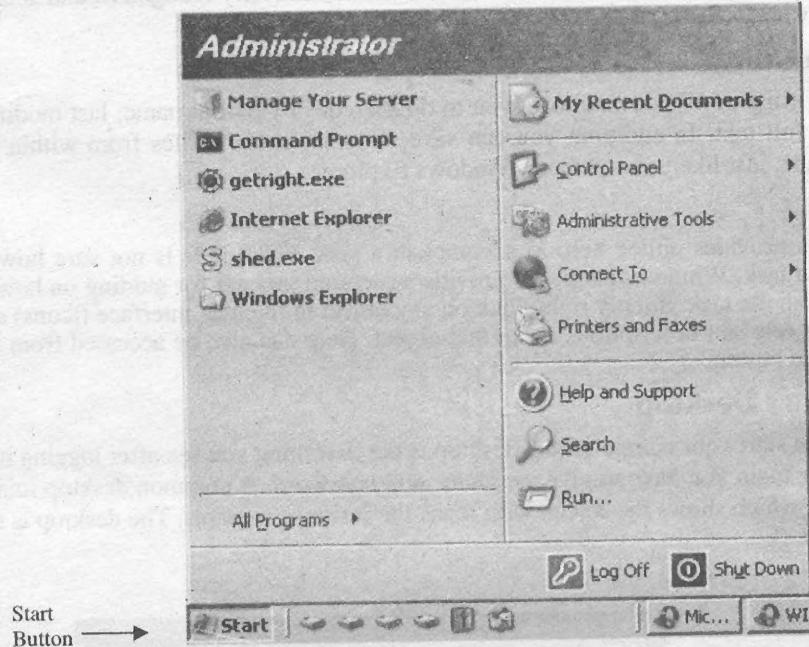

Figure 8.2: Start menu

Click on the Start to activate the Pop-up menu, click on *All Programs* to run applications, use *Search* button to find a file or folders (directory or sub-directory), *Help and Support* button to change the settings for Windows, Run a program using the *Run* link or shut down the computer using the *Shut Down* button at the bottom of the menu.

If you have opened more than one program or windows, you can switch between them. All the opened windows or program appears on the Task bar as minimized icons as shown in figure 8.1. Click on the desired icon to open the designated program. Similarly if you don't need a window too frequently, click on the minimized button of the windows. This will send the activated window as small icon to the task bar.

8.3.2   Steps to start a program

1. Click on the *Start* button, and then point to *All Programs* option.
2. Select the program you want to run. If the program you want is not on the menu, point to the folder that contains the program.
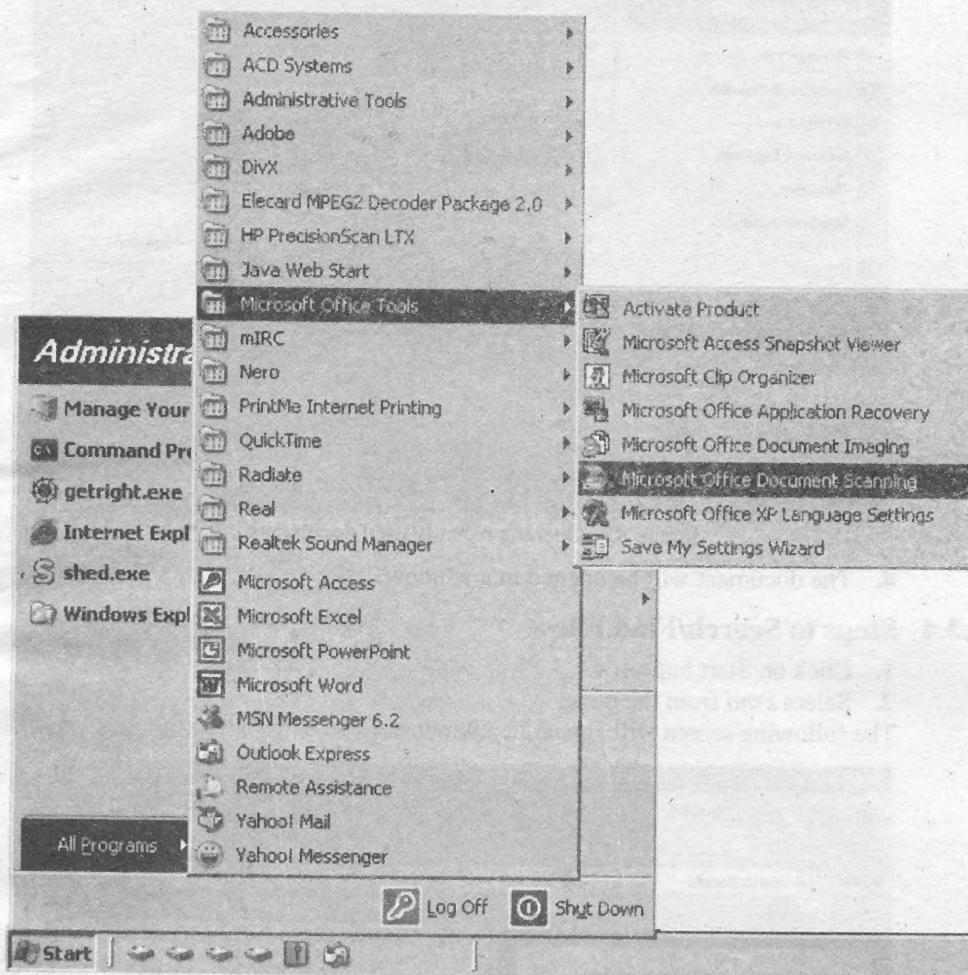3. Click on the program icon or menu.

Figure 8.3: Starting a program

Once the selected program starts, a small icon appears on the taskbar. If you have opened more than one programs, click on the required program icon on the taskbar to make it currently activated program.

If the desired program is not available on the program menu or one of its submenus you can use the Find dialog box to locate the program file.

8.3.3 Steps to Open a Recently Used Document

1.   Click on the Start button
2.   Select/point to *Documents* option.
3.   Select the document you want to open, by clicking on it
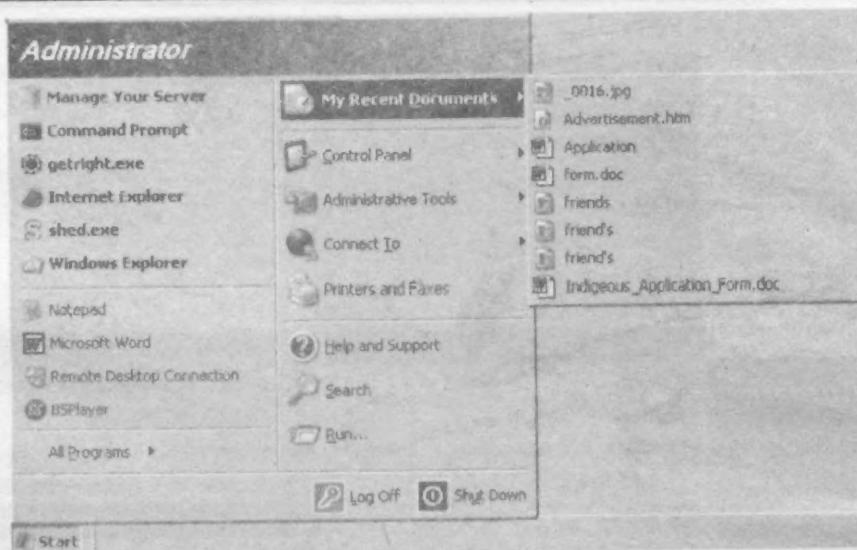
Figure 8.4: Opening recently used documents

4. The document will be opened in a window.

8.3.4 Steps to Search/Find Files

1. Click on Start button
2. Select *Find* from the menu
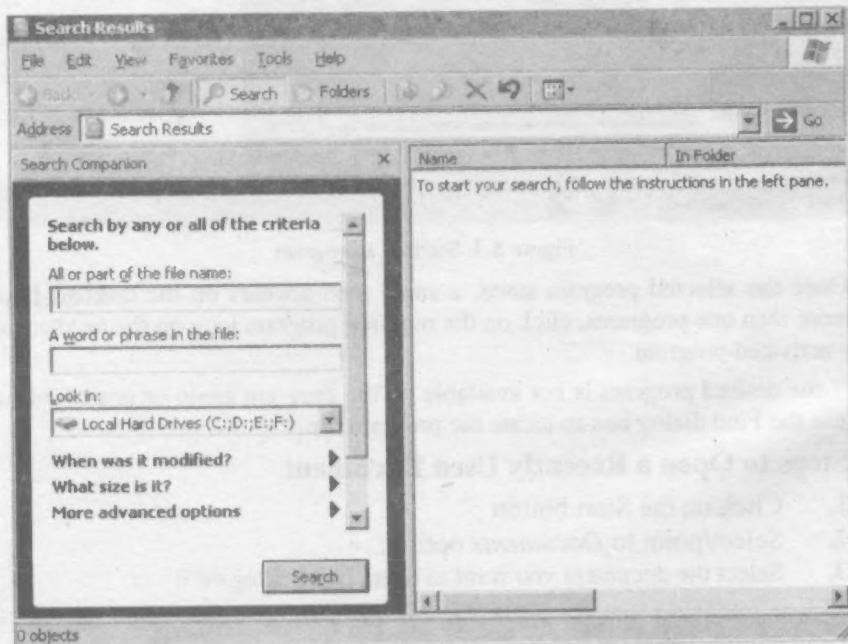
The following screen will appear in a window.

Figure 8.5: Search Window

The windows can search the file using following options.
1. Files or Folders
2. On the Internet
3. People
4. Using Microsoft outlook

The appropriate words can be entered into the textboxes and windows will start the search when you click the search button at the bottom. The Drives on your computer where the file can be found is also customizable.
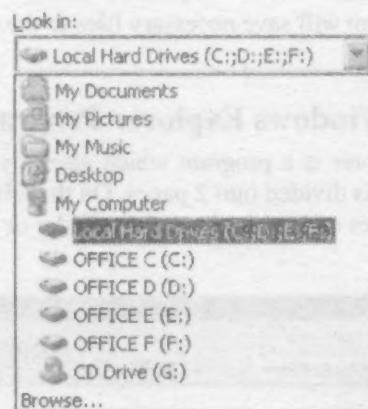

Figure 8.6: *Look in* Option in Search Window

You can ask the windows to search in a particular drive e.g. *C:* or *D:* or in all the drives by using *Local Hard Drives* option. This can be selected from the *Look In* menu. The others links available on the search pane can be used for advanced searches.

8.3.5 Steps for Shutting Down and Restarting Windows

1. Click on the Start button at the bottom left corner of screen
2. Click on Shutdown Button (on the right corner of the start menu)
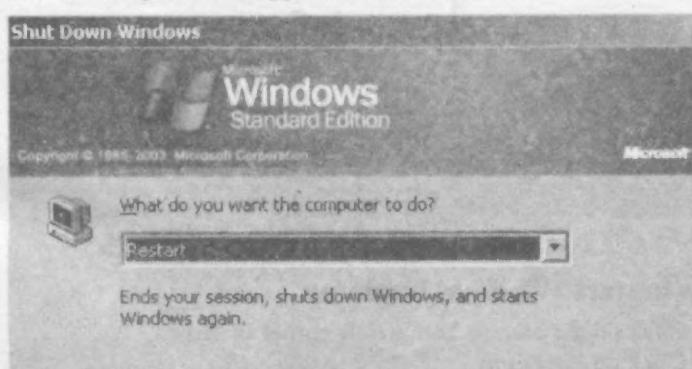3. The following box will appear on the screen

Figure 8.7: Shutting down / restarting windows

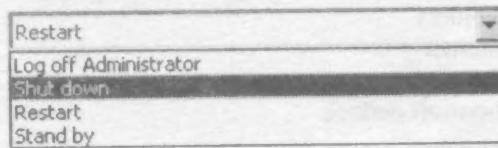4. Select an option from the pop up menu.

Restart ▾
Log off Administrator
Shut down
Restart
Stand by

Figure 8.8: Menu for Shutdown / Restart

5. Click on OK.
6. The system will save necessary files to the disk and then take the requested actions.

8.4 Using the Windows Explorer Program

Windows Explorer is a program which allows you to view all of your folders, and files in those folders. It is divided into 2 panes. On the left side are the drives and folders. The right pane shows the files and subfolders of the folder or drive you have chosen from the left pane.
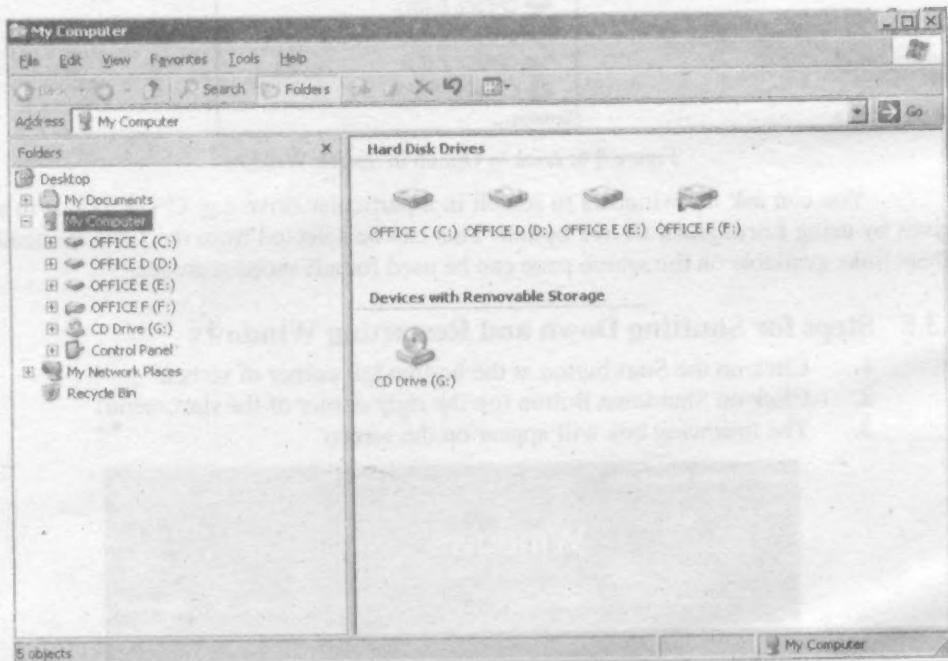

Figure 8.9: Windows Explorer Window

8.4.1 Steps to start Windows Explorer

1. Click on the *Start* at bottom left corner of screen
2. Click on *Programs*
3. Select *Windows Explorer*

8.4.2   Creating a Folder

You can create a folder to put your files in. The folder can be made in a drive inside any other folder or as a separate folder in any hard drive. To create a folder, follow these steps.

1.   Select the Drive or Folder you want to create your Folder in
2.   Right click in the right pane in the white area
3.   Select New
4.   Select Folder
5.   Type in name for that Folder and press enter

Your new folder is ready for use.

8.4.3   Deleting a file or folder

1.   Select the File/Folder you want to delete
2.   Hit the Delete Key on the keyboard
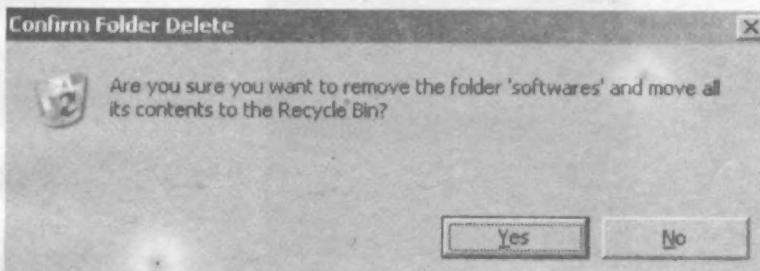3.   Confirm Deletion

Figure 8.10: Confirming deletion of files

4.   The folder and the files in the folder will be moved to the recycle bin.
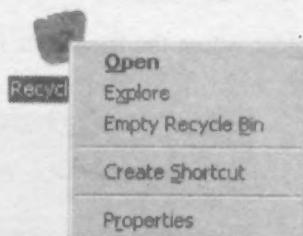

Figure 8.11: Emptying the Recycle Bin

5.   They can be permanently removed from the recycle bin by right clicking on the recycle bin and selecting the option *empty recycle bin*.

8.4.4   Copying a File/Folder from a Floppy Disk to Other Drive

1.   Select 3.5 Floppy (A:) in the left pane .
2.   Select the File/Folder you want to copy from in the floppy drive .

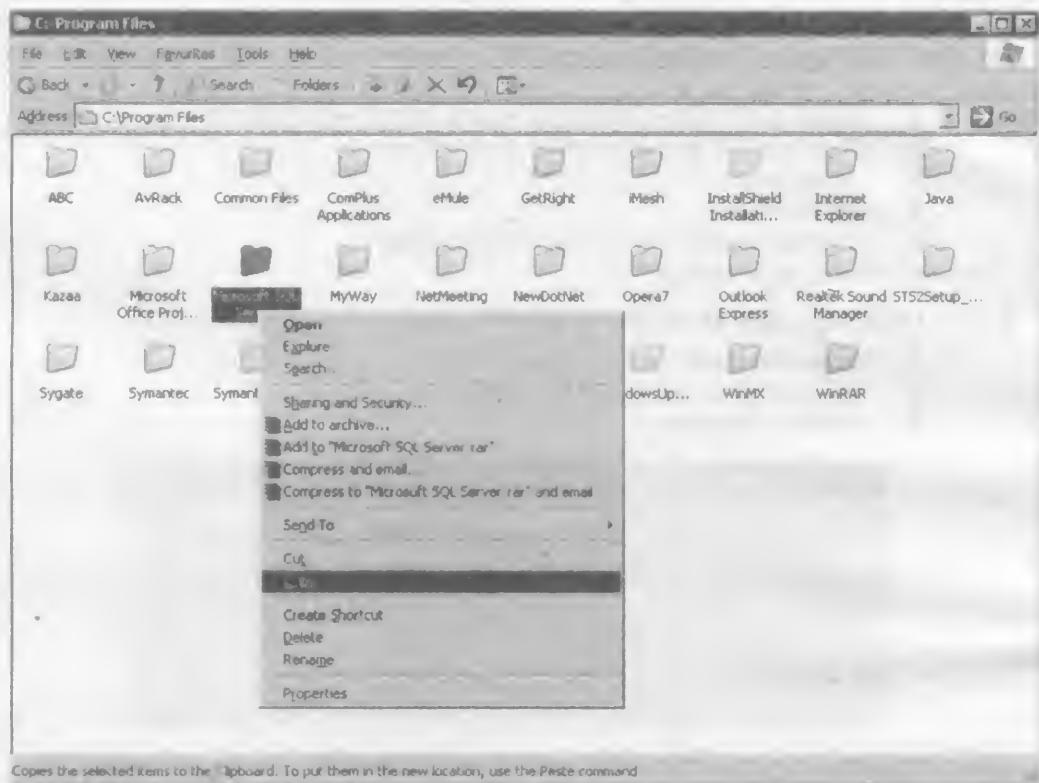3.   Right Click on the File/Folder and click *Copy*

Figure 8.12: Copy file option in right click menu

4.   Go to the destination folder where the file/folder is to be copied. Right click in the window in the white area
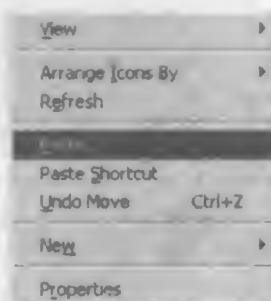

Figure 8.13: Paste option in right click menu

5.   Use the paste option in the right click menu. The windows will show file copying progress box and it will automatically close when the copying is complete.

8.4.5   Renaming a File or Folder

- Select the File or Folder you want to rename
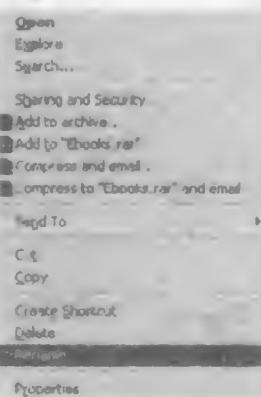- Right Click on it

Figure 8.14: Rename option in right click menu

- Select Rename
- Type in the new name and press *Enter* button

8.5   Using Windows Controls

All programs designed for use on computers that have Windows installed have common controls that you use to scroll, size, move, and close a window. The figure below shows a typical *My Computer* and some of the common controls available in it.
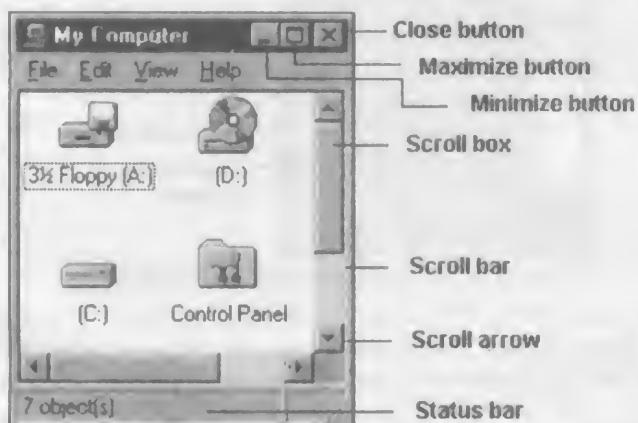

Figure 8.15: My Computer Window with controls

The table below lists a required task to be performed by a user and then method for performing the required tasks.

Required Task	How to perform the task
Move, or scroll, vertically or horizontally through the contents of a window that extends beyond the screen	Click a scroll bar or scroll arrow, or drag the scroll box. Figure above identifies these controls.
Enlarge a window to fill the screen	Click the Maximize button, or double-click the window title bar.
Restore a window to its previous size	Click the Restore button, or double-click the window title bar. When a window is maximized, the Maximize button changes to the Restore button.
Reduce a window to a button on the taskbar	Click the Minimize button. To display a minimized window, click its button on the taskbar.
Move a window	Drag the window title bar.
Close a window	Click the Close button

8.6   Using Windows Menu's

A program menu provides a list of options from which you can choose. On program menus, these options are called commands. To select a menu or a menu command, you click the item you want.

8.6.1   How to Open and make selections from a menu

1.   On the Desktop, double-click the *My Computer* icon.

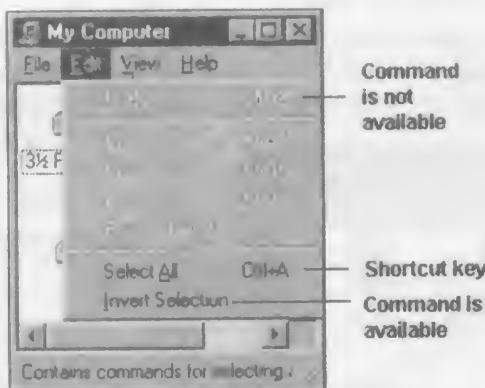The *My Computer* window opens.

Figure 8.16: *My Computer* window with *Edit Menu*

2.   In the *My Computer* window, click *Edit* on the menu bar.
The *Edit* menu appears. Some commands are dimmed. This means the command isn't available. This is because the command is not applicable to the current selection or option.

3.   Click the *Edit* menu name to close the menu.
The menu closes.

4.   Click *View* on the menu bar to open the *View* menu.

5.   On the View menu, click List.
The items in the My Computer window now appear in a list, rather than as icons.

6.   On the View menu, point to Arrange Icons By.
     A cascading menu appears listing additional menu choices. When a right-pointing arrow appears after a command name, it indicates that additional commands are available.
7.   Click anywhere outside the menu to close it.
8.   Click the Close button in the upper-right corner of the My Computer window to close the window.

8.7   Changing Desktop Background

To change the background of the desktop
1.   Right Click on the Desktop.
2.   Click on *Properties*

Figure 8:17 Selecting Desktop properties

3.   In the Box that appears, click on *Desktop* Tab and choose a background.
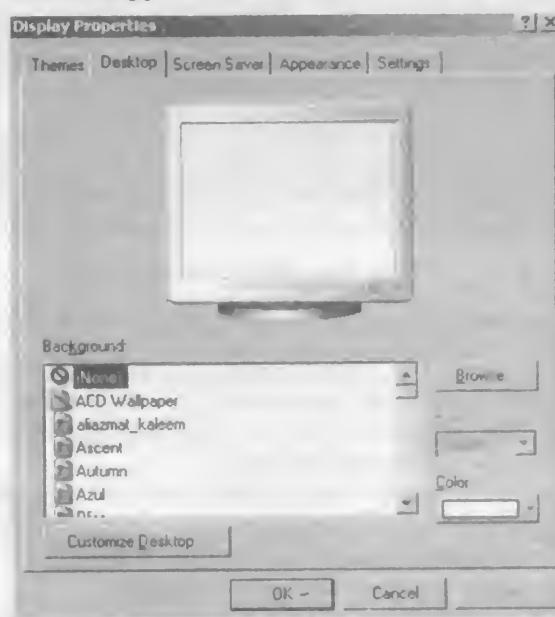
Figure 8.18: Changing Windows Background

4.   Click on *Apply* and then click *Ok*.
     Similarly all other option such as Screen Saver and Settings can be used from their respective tabs.

8.8   Using Control Panel

The Control Panel allows you to customize features such as "Appearances and Themes" or "Printers and Other Hardware". Additional features guide you further. For example, if you are downloading pictures from a digital camera for a class project, selecting "Printers and Other Hardware" provides you with the "Scanners and Cameras" option. By choosing the category you want, you can complete your task easily.

If you prefer the classic Windows control panel, that option is just a mouse-click away.
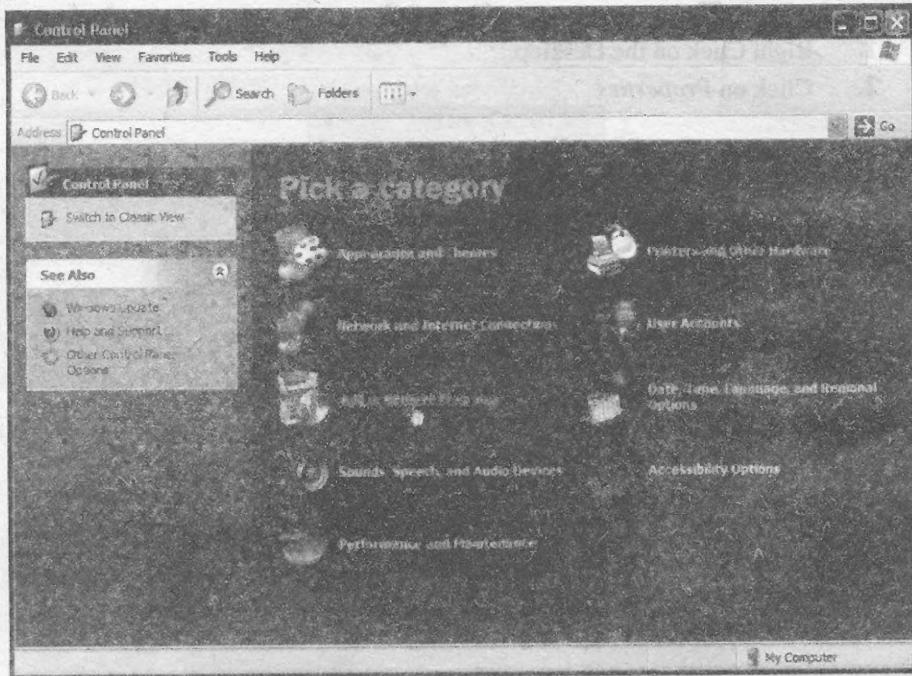

Figure 8.19: Windows Control Panels

Some of the important functions of windows control panels are described below.

Option	Task Performed by using the option
Add/Remove Hardware	This is used to add and remove hardware device drivers for devices such as CDROM and DVD drives, I/O devices (Keyboard, mouse), modems, multimedia, and network cards.
Add/Remove Programs	Allows programs to be installed or removed from the system including optional Windows components.
Administrative Tools	Only the members of the Administrators group can use these tools for making policies and advanced functions.
Display	Used for changing Background, Screen Saver, Appearance and Settings.
Internet Options	These are options are for Internet Explorer. Used for configuring advanced options of internet explorer.
Keyboard	For configuring keyboard speed and other attributes
Mouse	For setting mouse pointer and mouse speed

Printers	Allows Installation and Removal of printers from the computer. It can also be used to search printers from the network.
Sounds and Multimedia	This can be used to setup sound schemes and sounds to play for specific events.
Scheduled Tasks	This is also known as "Task Scheduler", it is used to schedule programs to run at specific times. An "Add Scheduled Task" icon is present in this folder which can be used to add new task.
Game Controllers	Allows configuration of joysticks and game pads for computer games.
Fonts	This allows viewing of current fonts and installation of new fonts for writing text. It is a shortcut to the font's folder.
Scanners and Cameras	For installing and configuring Digital cameras

8.9   Computer Virus and Antivirus

8.9.1   Computer Virus

A **computer virus** may be a program or a set of programs that can cause extensive damage to your computer system.

This code is attached to some part of the normal computer operating system or computer program. Instructions in this code tell the computer to perform some task. This task is often a destructive one, such as deleting important information or crashing the hard disk. However, there are other viruses that may only slow down your computer or do no serious damage. Some viruses have been known to do nothing more than put a large happy face on your computer screen.

8.9.2 How Does a Computer Get a Virus?

Just as a biological virus is passed from person to person, a computer virus is passed from computer to computer. A virus can be attached to any file that you copy to your computer. If you download files from the Internet or copy programs or files on floppy disks, you are very susceptible to viruses. Whenever you download files or put a floppy disk into your computer, you are susceptible to viruses.

Many viruses are spread through e-mail. Generally, you cannot get a virus from simply reading e-mail. Certain types of today's viruses, like Klez, are different. They are very dangerous because you do not even have to open an e-mail attachment to release the virus. Just opening the e-mail itself can release the dangerous bug.

Under normal circumstances, a virus becomes active when you execute a program that contains the virus. For instance, if you download a program from the Internet and it is infected with a virus, the virus will attack your computer when you activate the program.

8.9.3 Antivirus

Antivirus is software that is used to detect and remove a virus on a computer system.

You can stop viruses before they enter your computer. You can do this by using a good virus protection program i.e. anti virus software. it will check all files for viruses. Once installed, an antivirus program can be set to work in the background. It will check all files before they enter your computer and will alert you if a virus is detected before it contaminates your system. If a virus is detected, your antivirus program will quarantine or eliminate it so that it cannot harm your computer.

Be very careful to use a virus protection program that matches your operating system. If you use a Mac, use a virus protection program made especially for Macintosh computers. If you use Windows 98 or XP, select a program that was written specifically for your operating system. Don't try to use a virus protection program that was written for Windows 95 on a Windows XP machine; this will cause unstable behavior and may cause your computer to crash or malfunctions.

New viruses are written everyday. Companies like McAfee, Symantec, and Panda Software are constantly expecting new viruses and updating their antivirus software tools.

Exercise

1. Briefly explain the following:
   a. Drives b. Folders c. Directory d. File extension e. Icon
2. Name and explain three different features of Windows.
3. What is start button and taskbar?
4. Write the steps needed to start a program?
5. What are the steps for shutting down and restarting Windows?
6. What is Windows explorer? How can We start Windows explorer?
7. What is the use of recycle bin?
8. What is "Control Panel"? Name three different options of control panels and tasks performed them.
9. Write a note on computer virus.
10. What are the benefits of using anti-virus programs?
11. **Fill in the blanks** :
    (i) Windows dominates the personal computer world, running almost on _____% of all personal computers.
    (ii) in the file name PhoneNumbers.txt, the part "PhoneNumbers" is the _____of the file and ".txt" is the _____of the file
    (iii) When you delete an object, Windows sends it to the _____
    (iv) _____ acts as a directory browser and File Manager for Windows
    (v) Windows places the deleted files and folders in _____
    (vi) _____ is just a link to the original file/folder or an application.
    (vii) _____can seriously damage the computer system.
    (viii) Windows is a(n) _____
    (ix) A(n) _____ is a software that is used to remove the viruses from the system.
    (x) To add or remove hardware, you must select an option from _____
12. True or False
    (i) A Network is a group of Computers connected to each other to share available resources such as storage and printers.
    (ii) Windows do not provides online help.
    (iii) Multitasking allows the user to activate and accomplish more than one task at a time.

(iv)   Folders are used to organize the data stored on your drives.
(v)   Icons help you to remember file names in windows.
(vi)   The Internet Explorer browser is what you will use to access the Internet and the World Wide Web.
(vii)   Windows is just a GUI, not an operating system.
(viii)   shift + ctrl + delete command sequence is recognized only by Windows.
(ix)   Contents of Recycle bin can be restored to.
(x)   NORTRON antivirus software can detect all viruses in the computer.

13.   Choose the correct answer
   i.   _____ the gateway of accessing most of the functionality available in the computer loaded with Windows
      a.   Taskbar
      b.   Folders
      c.   Start Button
      d.   Mouse
      e.   Application
   ii.   Control Panel allows you to customize which of the following feature:
      b.   Appearances
      b.   Themes
      c.   Printers
      d.   Other Hardware
      e.   All of the above
   iii.   Computer virus is simply a
      a.   a disease
      b.   set of computer instructions or computer code
      c.   type of bacteria
      d.   hardware component
      e.   none of the above
   iv.   Klez is a
      b.   Game name
      c.   Hardware component
      d.   Virus name
      e.   Person name
      f.   None of the above
   v.   Good Times was a
      a.   virus
      b.   anti virus
      c.   fake news about the existence of virus
      d.   none of the above

Answers

Q.11

(i) 90	(ii) Name, Extension	(iii) Recycle bin	(iv) Windows Explorer
(v) Recycle Bin	(vi) Shortcut	(vii) Virus	(viii) Operating system
(ix) Antivirus	(x) Control Panel		

Q.12

(i) T	(ii) F	(iii) T	(iv) T	(v) F	(vi) T	(vii) F	(viii) T	(ix) T	(x) F

Q.13

(i) c	(ii) e	(iii) b	(iv) c	(v) c